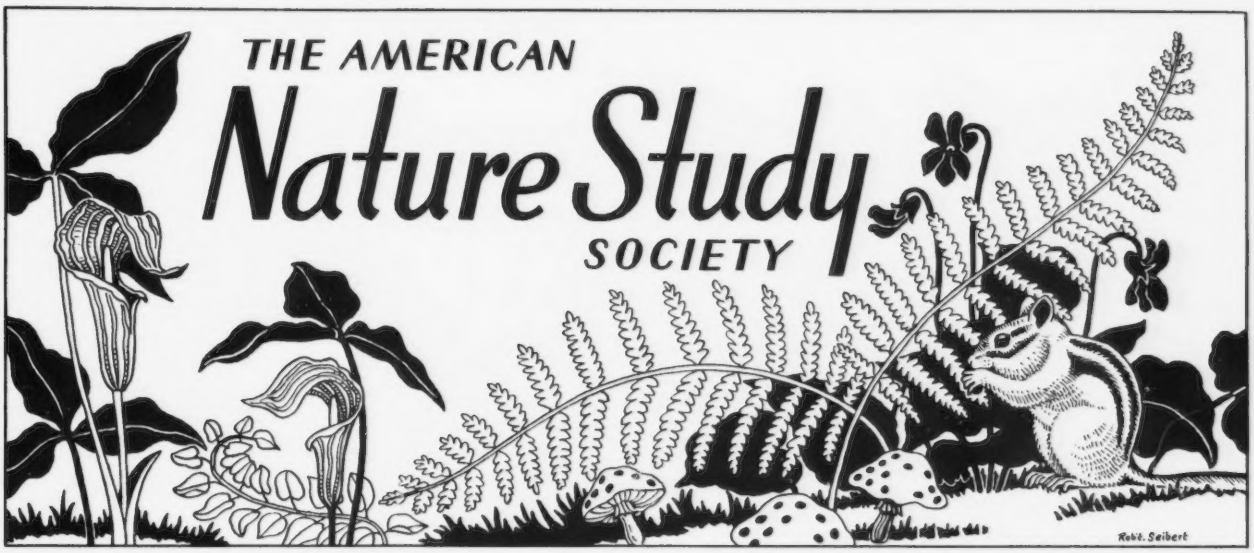

SPRING NEWS LETTER • MAY, 1947

REPORT OF THE SECRETARY - TREASURER

Annual Meetings

While we are still thinking of the fine meeting we had in Boston last December and discussing the various viewpoints presented, we find that we must be looking ahead to this year's meeting scheduled in Chicago, December 26-31.

Your officers are making plans for a full day's session on nature activities and conservation programs in the mid-west and another day shared with the National Association of Biology Teachers on some mutual problem and objectives, perhaps a symposium by invited leaders from various fields of interest. It is hoped, too, that several field excursions can be scheduled on Sunday, December 28.

Boston Papers

We will be unable to print any of the papers presented at our Boston meetings in full, but we do hope to have a number of them printed in other journals and will abstract most of them in our News Letter. Those printed or asked for include:

The Massachusetts Audubon Nature and Conservation Program, by *Russell Mason*. January, 1942 Bulletin, Massachusetts Audubon Society.

The Rhode Island Conservation Work-Shop, by *Harold L. Madison*. Requested for use Bulletin Massachusetts Audubon Society.

The Teaching of Ecology from the Nature Study Viewpoint, with a historical account of the A.N.S.S. was given by Richard L. Weaver at the N.A.B.T. meeting in Boston. It has been published in The American Biology Teacher, March 1947.

Membership

All members in arrears in dues have been notified (March 20) and many have sent in their checks. This final News Letter and one final notice will be sent to the remainder, who will then be dropped if not heard from by June 30.

New letterheads have been printed and new membership invitations are prepared. The membership drive for 1947 is under way and most of your officers are assisting the secretary with this important work. If you have time to help us, why not volunteer now. We can send you a supply of letters to sign and send to your friends or you can send us the names of your friends to be invited and we will send the invitations.

Nature Magazine

The first reprint from the page in *Nature Magazine* given to us for use five times a year, comes to you with this News Letter. The second installment, edited by Charles E. Mohr, describes "Expeditions for Everyone," which is a summary of the educational program he has organized while serving as Director of Education of the Academy of Nature Sciences in Philadelphia.

Nature Scholarships

Applications are available from the Secretary for the two scholarships of $25.00 each which are given by the Society to students who need help in attending a nature camp, conservation workshop, or summer school or natural history. The deadline for application for 1947 is June 30, 1947.

PLACEMENT SERVICE

The Society receives so many requests from organizations for help in securing personnel trained in the natural sciences that the secretary has offered to set up a placement service to assist members of the Society in contacting possible employees. Therefore, if you would like to secure summer employment, or year-'round employment in nature or conservation education work, you are urged to register with *Richard L. Weaver, Secretary, American Nature Study Society, P. O. Box 1078, Chapel Hill, N. C.*

OUR ARTIST

Robert Siebert of Orange, New Jersey, created the fine mast-head picture on our News Letter and this will also be used for our letterheads and the page donated in Nature Magazine for our use.

Mr. Seibert has done many of the museum exhibits at the Audubon Nature Center in Greenwich, Connecticut, and has helped with many of the illustrations in AUDUBON MAGAZINE.

We thank wou, Bob, for your excellent contribution to the Society.

ATTENTION

In the last issue of the News Letter, the New Jersey workshops were listed under New Hampshire and the New Hampshire workshop was omitted. To the list of workshops the following should be added:

New Hampshire

Fernglen Workshop of Biology and Nature Study, Antrim. Three two-week sessions. Address Mabel E. Turner, Director, State Teachers College, Lowell, Massachusetts.

AMERICAN NATURE STUDY SOCIETY NEWS LETTER

Affiliated with The National Association of Biology Teachers
Affiliated with The National Association of Science Teachers
Affiliated with The American Association for the Advancement of Science

Office of the Secy.-Treas., Richard L. Weaver, Chapel Hill, N. C., Box 1078 Editor of the News Letter, Dwight E. Sollberger, State Teachers College, Indiana,, Pa.
Publication Dates: Winter, February; Spring, May; Summer, August; Fall, October

HISTORY AND OBJECTIVES

The Society was founded in 1908 by a number of educational leaders who wished to promote the Agassiz Philosophy of "Study nature not books," and has continued as one of the few professional organizations devoted to the all-around appreciation and study of nature.

In its thirty-six years of service the Society helped to sponsor and encourage the Conservation idea, the school garden movement, the camp program, nature trails and museums, and many other more or less universally recognized educational activities in the nature field, through annual programs and articles by members.

For fifteen years, the Society published THE NATURE STUDY REVIEW. During recent years CANADIAN NATURE has served as its official publication. A quarterly NEWS LETTER keeps the members informed of each others activities and of current projects, materials and publications in the natural history field.

Membership is open to any interested person. The membership fee of $1.50 includes a year's subscription to the magazine, CANADIAN NATURE and the quarterly NEWS LETTER. An application form is attached for you to enroll or to nominate a friend.

NEWS OF MEMBERS

Our President, *Edwin Way Teale,* and Mrs. Teale have just completed a two-months' tour of the South Atlantic states. Ed has been collecting material and pictures for a new book. He visited Chapel Hill April 30 and planned some more new projects for the Society with *Dick Weaver,* our Secretary.

Charles E. Mohr, our past president, has accepted appointment as education director of the Audubon Nature Center at Greenwich, Connecticut, succeeding Dr. Richard L. Weaver, who served as director from its establishment in 1943 to February 1947.

Dr. Dwight E. Sollberger, our editor, has been appointed acting head of the Department of Science at the Indiana State Teachers College. He will teach science education in the Pennsylvania State College summer session in cooperation with *Professor George J. Free,* one of our past presidents who is directing the Conservation Laboratory for Teachers at that institution.

Miss Lydia Elzey has accepted a position as education consultant at the Pennsylvania Conservation Education Laboratory for Teachers, at State College, Pennsylvania, this summer.

Mr. Thomas McMaster, Curriculum Division, Philadelphia Public Schools, will serve as Education Consultant at the Pennsylvania Conservation Education Laboratory for Teachers, at State College, Pennsylvania, this summer.

Professor George J. Free, in charge Pennsylvania Conservation Education Laboratory for Teachers, reports that the students of the 1946 Conservation Laboratory have given over seventy talks on conservation education to adult groups thruout the state of Pennsylvania.

From left to right: Edwin Way Teale, 1947 president: E. L. Palmer, A.A.A.S. representative and past president: Charles E. Mohr, retiring president

Gladys W. Bailey has a master's degree from Cornell University in ornithology, where she studied the Rose-breasted Grosbeak. She is an instructor in the American Museum Education Department in New York City.

Robert B. Braun, now enrolled as a student at the University of Connecticut, was formerly a student of Professor Aretas A. Saunders and R. L. Weaver.

Merritt C. Farrar has been very active in the establishment of the South Bend (Indiana) Audubon Society and in the educational program of that club.

Eleanor Phillips has a master's degree from Temple University and is a teacher of physical and health education at the Olney High School in Philadelphia.

Agatha Witte is a graduate in Education from the Frostburg State Teachers College and teaches in Cumberland, Md.

George Wallace has a doctor's degree from the University of Michigan and wrote the Life History of the Bicknell's Thrush. He is now assistant professor of zoology at Michigan State College

Mabel E. Turner, of State Teachers College, Lowell, Massachusetts, directs a very interesting program in nature and conservation at Fernglenn, Antrim, New Hampshire, and is a teacher of biology at Lowell State Teachers College in Massachusetts.

Betty Komarck has assisted the youth in Georgia to a better appreciation of nature and conservation, and with her husband, Ed, has established a splendid sanctuary known as Bird Song Plantation at Thomasville. They demonstrate the advantages of controlled burning for improving the forests and wildlife in the South.

Ruth Gilmore helped establish the Rhode Island Conservation Workshop and has been on the staff continuously. She has also taken an active part in garden club activities in Rhode Island and New England generally. She is a specialist in the use of native plants for food.

Mary Steele attended the first session of the Audubon Nature Center last year and then went to the Pennsylvania State College to participate in the Conservation Education Laboratory for Teachers.

NEW MEMBERS

(Since the January Roster)

Witte, Miss Agatha—Mt. Savage, Md.
Phillips, Miss Eleanor—544 Kerper St., Philadelphia 11, Pa.
Robbins, Rachel—75 Grove St., Leominster, Massachusetts.
Buck, William F.—89 Hammond Street, Clinton, Mass.
Gates, Mrs. J. Herman—Narragansett Heights, Wakefield, R. I.
New Eng'and Wildflower Preservation Society—300 Massachusetts Ave., Boston 15, Mass.
Hand, Louise H.—1193 E. 34th Street, Brooklyn 10, New York.
Braun, Robert B.—525 Clinton Avenue, Bridgeport 5, Connecticut.
Farrar, Merritt C.—339 Park Avenue, Mishawaka, Indiana
Bailey, Gladys W.—American Museum of Natural History, 79th Street and Central Park West, New York City.
Mary Steele, Pocopson, Pennsylvania
Dr. Ralph Dexter, Kent State University, Kent, Ohio
Conservation Division, New York Zoological Society, New York, N. Y.

EARN WHAT YOU LEARN

The first time I saw a Cecropia Moth (Samia Cecropia), was some twenty years ago, after a couple of school teachers had given me a fat cradle-like cocoon which they had removed from a bush in the park. I stuck the twig to which the cocoon was attached into the soil in a pot of ivy and promptly forgot it.

On returning from a picnic on May 29, as I came into the door, my eyes fell on the most gorgeous winged insect I have ever seen clinging to the leaves of the ivy plant. I'm sure I would have called it a butterfly had I not recently read a book described the great moths of a certain section of the country.

I was sure I had something rare, something seldom seen by laymen. I told my 13-year-old son as much. The entire neighborhood came in to look and marvel and wonder. I sped to the library to get all the material on moths I could find.

I placed the flower pot on the dining room table, threw a large mosquito net over it and pinned the net securely to the tablecloth.

Upstairs one screen had not yet been put on my son's bedroom window. Early next morning he called, "Mom, is your rare moth still there?" It was, of course. "Here are some more rare ones just like it," he announced, and came tripping downstairs, gayly grasping the wings of two cecropias—one in each hand. "There are three more up in my room," he informed me. "Wait and I'll get 'em." "Hmmm," I thought, "what goes on here?"

I gave them away, right and left, to school teachers for their classrooms, but not before the original Cecropia had begun depositing rows of slightly maroon-tinted white eggs on the ivy leaves.

Since that time I have made a hobby of raising our native silk-worm moths and some butterflies, from the eggs. I learned that my first Cecropia moth was an unusually large female (6¾-inch wingspread) and that the males had caught her airborne scent and had come a-wooing. The five which had found their way into my son's room were undoubtedly only a few of the many which had been around the screens of the other windows during the hours of darkness.

During the past five years I have had a lot of fun, plenty of hard work, a good many weeks and months of study, observation, and research while raising many hundreds of Cecropias, Polyphemus (Felia polyphemus) and Luna (Actias luna), all common, native, giant silk-worm moths. I had special fun, too, with the Cynthia or Ailanthus (Philosamia Cynthia) which, while an import from Asia is very common in the Middlewest and easy to raise if its food plant, the Ailanthus, is available. We have several in the yard.

In most instances, the first of my breeding stock came to me in the form of large, wandering, ready-to-spin larvae, which I found or which were brought to me by persons who knew of my study.

At first, not being sure always, which larva was which, and what kind of a place it required for spinning or pupating, I provided them with earth, dry leaves, rubbish, well-leafed and woody twigs. These materials were all placed in the proper position in a large crock aquarium with a screen top. (This later served as a breeding cage.)

I learned the hard way, but took careful notes on what I saw happening. I soon learned that Cecropia selected the downslant, underside of the woody twig, attached its silver cradle-like cocoon there, camouflaging with leaves carefully pulled down and held by silken threads. The Lunas chose the debris on top of the ground, carefully wrapping the thin semi-transparent oval cocoon with a leaf. All of my Polyphemus have spun among the heaviest of the leaves on the twigs, their cocoons being stiff, nearly-round, and glistening white. They drop to the ground among the leaves with those of the luna.

My Cynthias lined the leaflets of compound leaves of the Ailanthus with silk, and, in spinning the long, finger-like cocoons, pulled the sides of the leaflets closely around it, after securely fastening the leaflets to the mid-stem of the leaf with strong, lustrous silk. This amuses me, as the entire compound leaf loosens from the branch and falls to the ground. Is Cynthia following an instinct born in its native Asia, where the food leaf may not have been compound, and perhaps hung on the tree all winter when fastened in the same way?

I winter all the cocoons out of doors, in the same aquarium in which they spin. All but the Cecropias I cover lightly with sphagnum moss, and water them occasionally to provide the moisture of normal rains and snows of fall and winter.

In the spring I place the cocoons in large screen-wire cages and the moths emerge without difficulty, climbing rapidly up the screen wire where they hang as the wings unfurl and dry. Of all the miracles of nature, I have never seen one more breath-taking than that of the emergence and development of these large silk-worm moths and the butterflies.

The moth moistens the silk of its prison with an acid which it emits from its mouth after its escape from the pupa. Then it parts the weakened strands of silk easily and pushes forth, first the head, then the feathery antennae, then quickly a pair of front feet, then it bursts forth suddenly, frantically seeking height, dragging the heavy body and tightly crumpled wings until it finds a satisfactory position. There it remains quiet, the wings growing as the body is reduced in size. Watching the process through a lens is very fascinating and the biological processes taking place fill one with a great wonderment.

With the coming of spring, when these great creatures begin to hatch, the work time is here. Usually several of the males have emerged before any females hatch. I have had as many as twenty-two males of the Cecropia before I have had a single female. The males are usually released at dusk, and they take off into the wind with their great wings beating like a bird, but an erratic batlike flight probably better to pick up the scent of the females as it is wafted on the air currents.

The females I keep, placing them either on the inside of a screened window or in cages on the porch. My project for three years, with the cooperation of the weather bureau, has been to study what time of the night the males visit the females. Temperature, humidity and wind all seem to have a part. With different species of moths, time and habits are markedly different.

On a night in June, I stepped into the third floor porch at 4:30 a. m. (war time) and found myself surrounded by softly-beating wings, brushed by the velvety bodies of made cecropia moths. They alighted on my hair, and arms, on my gown, and even on my bare feet. I gathered in 56, and placed them on the living room curtains, while others danced off into the dawn. These were all attracted by one lone female Cecropia moth, placed inside a kitchen window screen. All of my experiments and laboratory work is done on the third floor porch of a city apartment.

I mate pairs, watch the development of the fertile eggs, and rear the larvae, feeding them carefully till the spinning time is reached. To anyone who anticipates only fun in moth raising as a hobby, let me put forth a word of warning. When they come from the egg, two hundred tiny, cute jet-black fuzzy Cecropia crawlers look very innocent as I remove them via toothpick from the cage to their food leaves. After they take their first bite of acceptable food they know naught but to eat, with short periods for resting and molting the skin, until they are handsome creatures from four to four-and-a-half inches long and as big around as my thumb.

Each species has a favorite food leaf, and it will starve rather than eat any other. I have raised the Cecropia on the leaves of box elder, apple and lilac but have found the larvae in the woods eating several other kinds of leaf. I raised the

Polyphemus on oak, and the Luna on walnut and hickory. Each must have plenty of fresh succulent leaves at all times, day and night during the feeding days, and I can assure you that all larvae seem to live but to eat. Near the end of this time one can almost see them grow. I have walked a half block down an alley three times a day, carrying a step ladder, and climbed on top of a shed in order to reach enough fresh leaves to satisfy the appetite of these Cecropia children. And I have walked six blocks twice a day for oak for the Polyphemus in the blistering sun, and two blocks for walnut leaves for the Lunas, to say nothing for closer foodstuffs for several other species.

I keep these small branches of full leaves in bundles with their stems always in jars of fresh water. This must be done. I stuff paper into the jar at the water line as the larvae often wander down the stems to change position and are apt to drown, even those nearly full grown.

The Cecropia feeds the longest and is single brooded. The Polyphemus, Luna and Cynthia are double-brooded in the middle west, and last summer I had a third generation of lunas.

If you raise moths or butterflies, take on-the-spot notes of all you see; you may not understand what is happening at the time but research and a study of the biology of the creatures will reveal much.

I cut a cap-like section from a pair of just-finished Cecropia cocoons one summer and was fortunate enough to watch the shrunken larvae within change to the pupae. They turned out to be a male and a female, and both emerged safely in the spring, even though I kept notes on them all winter, removing the caps for observation then fastening them back in place with rubber bands.

If you take up moth culture as a hobby, I can assure you that you will have fun, plenty of exercise and that you will earn what you learn.

—Jean P. Gessel, 821—19th St., Des Moines, Iowa.

PAPERS GIVEN AT THE BOSTON MEETING

How to Improve Camping Education Through Greater Use of Natural Resources in Organization Camps

Wes H. Klausmann, National Director of Camping of the Boy Scouts of America, explained how identification has too often been the sole end of the nature program in camp and how other approaches could be used. Questions such as the following were suggested:

What rocks are best to use for fireplaces? Why?

What is the best tinder to use for building fires? Where can it be found?

What kinds of wood provide the quickest heat?

What trees provide the best poles?

Where do you find food in the woods?

Mr. Klausmann pointed out that each of these questions might lead to other questions and further understanding of one's environment.

Organizing the Fourteen Southern States for Resource-Use Education Through the Southern Resource Committee

John E. Ivey, Jr., Secretary of the Southern Resources Committee, told the story of how a philosophy of wise use was put into practice. He described the work of developing an educational program to bring about better practices in resource education in fourteen southern states.

Six major regional areas in the United States have been identified by research work at the University of North Carolina. These are the Northeast, Southeast, Middle states, Northwest, Southwest, and Far West. Resource-Use problems differ in these areas due to the differences in values and attitudes of people, differences in cultural and historical backgrounds, racial composition, etc.

In 1942 a workshop at the University of North Carolina was offered to study the problem of resource use through education. A committee on Southern Regional Studies and Education was formed by the American Council of Education. Plans were developed for two-week work conferences the following year. These were to include policy-forming groups of the southeastern region. The findings of this conference were:

1. Research material was available but not put into use educationally.

2. Books for the Southeast were published elsewhere by those unfamiliar with the problems, and were unsuitable.

3. Adult educational material was found to be unsuitable for those who were to read it.

4. There was little basis for systematic cooperation between educational agencies.

A small book, "Channeling Research Into Education," was published by the committee on Southern Regional Studies. Other conferences followed and worked on "how" problems. State commissions were set up in Resource-Use Education. Other publications include, "Education Helps Build a Region," and a newsletter, "From Facts to Action."

Virginia's Conservation Workshops

Alfred L. Wingo, Virginia Department of Education, described Virginia's six Conservation Workshops.

In Virginia it is believed that conservation-mindedness can be most effectively achieved through the program in general education. In 1944, the State Board of Education appointed a staff member to give full time to a study of Virginia's resources for the purpose of translating such studies into instructional materials and teaching techniques that may be used at grade levels in our public schools.

A plan, of determining needs, was developed. This consisted of developing an Advisory Committee, a questionnaire to superintendents, supervisors, and principals, visitations, summer-school teaching, reading and study, and correspondence.

After the needs were revealed and identified in terms of materials and supervisory activities, plans for securing the needed materials and supervisory activities was developed.

Indiana Conservation Education

Dr. Howard Michaud of Purdue University described Indiana's first camp in Conservation Education conducted last summer. The camp was sponsored jointly by Purdue University, the Indiana Department of Conservation, and the State Office of Public Instruction. Six semester hours of university credit were granted for the completion of the five-and-one-half weeks course.

Teachers were represented from widely scattered sections of the state and from many subject areas of the school curricula. Principals, supervisors, teachers of general science, biology, vocational agriculture, physical education, and teachers of the primary and intermediate grades were included.

The program consisted of activities in the field, such as testing soils for pH and types, contouring and mapping, collecting and identifying plants, making a bird census, and observing details of the life history of plants and animals.

Considerable credit is due to the Conservation Clubs, Izaak Walton League Chapters, and Garden Clubs of the state, for their interest and financial aid in furnishing scholarship funds to send teachers from their local communities to camp.

Plans are progressing satisfactorily for the second Pennsylvania Conservation Education Laboratory for Teachers to be held in two sessions: June 30 to July 19 and July 21 to August 9. The Department of Education of the Pennsylvania State College has been designated to operate the Laboratory at State College, Pennsylvania. It is expected that scholarships provided by conservation-minded groups will be provided for all students admitted. George J. Free will again be in charge.

The Pennsylvania Game Commission is offering a new set of four colored charts of Pennsylvania birds. The size is 40″ x 24″ and the price is $1.50. Since these are new cuts the colors are very satisfactory.